

**REMARKS/ARGUMENTS**

This preliminary amendment has been filed with this CPA in light of the Final Office Action dated June 9, 2003. Claims 1 and 6 have been amended. No new matter has been added. Support for the amendments can be found in the specification, among other places, on page 6, lines 24-27. Reconsideration is respectfully requested.

**I. Rejection under 35 U.S.C. §103**

Claims 1, and 3-11 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Le Roy (U.S. Patent No. 5,822,363) in view of Hershey et al. (U.S. Patent No. 5,844,949) (hereinafter Hershey). Applicants respectfully traverse the rejection of Claims 1 and 3-11 under 35 USC 103(a). In the Office Action, on page 5, paragraph 3, the rejection states that "Claims 1 and 6-8 have been rejected under 35 U.S.C. §102(a)". Applicants believe that this statement was a typographical error and will assume that the Office Action meant to state that the rejection was under 35 U.S.C. §103(a). If Applicants assumption is incorrect, Applicants respectfully request clarification.

Independent Claims 1, 3, 4 and 6 of Applicant's recited invention recite a geometric harmonic modulation communication system and method using an encoder and/or decoder that facilitate identification of transmission errors, which result from the time varying transfer function due to transmission through distribution transformers. The geometric harmonic modulation communication system comprises an encoder that includes an exclusive "or" logic unit and a delay unit. The exclusive "or" logic unit includes a first input for receiving the baseband digital signal to be encoded. The one bit delay unit includes an input coupled to the output of the exclusive "or" logic unit. The one bit delay unit further includes an output coupled to a second input of the exclusive "or" logic unit. The undelayed output of the exclusive "or" logic unit provides the encoded digital baseband signal.

The Le Roy reference does not teach, suggest or disclose each and every element of Applicant's invention as recited in amended independent Claims 1, 3, 4 and 6. Specifically, Applicant's invention recites an encoder for encoding a digital baseband signal in a geometric harmonic modulation communication system. The Le Roy reference provides no teaching or suggestion of an encoder for encoding a digital baseband signal in a geometric harmonic modulation communication system. Furthermore, the Le Roy reference does not teach, disclose or suggest a geometric

harmonic modulation communications system or method that uses an encoder and/or decoder that facilitate identification of transmission errors, which result from the time varying transfer function due to transmission through distribution transformers.

Applicant respectfully submits that Hershey does not overcome the above noted deficiencies of Le Roy. Hershey teaches a method for communicating digital information over a wire having harmonic interference frequency lobes. Hershey does not teach or suggest the use of a logic unit and a one bit delay unit for encoding a digital baseband signal. The Office Action has referred to column 4, lines 32-43 in Hershey as providing a disclosure with respect to a typical GHM coding scheme. Applicant has carefully reviewed these sections and submits that there is no teaching or motivation, in these sections or in any other section of Hershey, suggesting the desirability of using a logic unit and a one bit delay unit along with a typical GHM coding scheme to generate an encoded digital baseband signal. Even further, there is no teaching, motivation or suggestion in Hershey that facilitates identification of transmission errors, which result from the time varying transfer function due to transmission through distribution transformers. Hershey instead teaches a system for communicating digital information over wires having a great deal of harmonic distortion, such as a power line, that employs a transmitter. The transmitter creates a carrier wave for each of a plurality of signals to be sent and has frequency lobes positioned between the frequency lobes of the harmonic distortion (column 5, lines 10-23).

In view of the above, the combination of Le Roy and Hershey, as suggested in the Office Action, would not meet the limitations of Applicant's claimed invention as recited in amended independent Claims 1, 3, 4 and 6. In addition, the combination of Le Roy in view of Hershey would not meet the limitations of independent Claim 1 for the same reasons.

Furthermore based on the arguments above, Applicant respectfully submits that the Office Action has not set forth a proper motivation for combining the teachings of Le Roy and Hershey because the combination of Le Roy or Hershey would not meet the limitations of the claimed invention. Since there is no motivation to combine the references suggested in the Office Action, Applicant further submits that one of ordinary skill in the art would not have any motivation to use the teachings of Le Roy and Hershey to make a combination that results in Applicant's claimed invention as recited in Claim 1 and 3-11.

Furthermore, even if teachings of the references cited in the Office Action were somehow combined, no combination of the applied references teach or suggest

Applicant's invention as recited in Claims 1 and 3-11 because none of the references teach or suggest a geometric harmonic modulation communication system that facilitates identification of transmission errors which result from the time varying transfer function due to transmission through distribution transformers.

Accordingly, Applicant respectfully submits that the claimed invention, as recited in amended independent Claims Claims 1 and 3-11 is patentable over the combination of Le Roy and Hershey et al. It is respectfully requested that the rejections of Claims 1 and 3-11 be withdrawn.

Based on the amendments and arguments presented herein, Claims 1 and 3-11 are in condition for allowance and such a disposition is respectfully requested. There are no time-related fees associated with the filing of this Preliminary Amendment. If any fees have been incurred with the filing of this Preliminary Amendment, please charge the fees to Deposit Account No. 07-0868.

Respectfully submitted,



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June 6, 2003

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